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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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23552 7590 03/23/2010 MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			EXAMINER BIRBACH, NAOMI L	
			ART UNIT 1792	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,983	Applicant(s) FLETCHER ET AL.	
	Examiner NAOMI BIRBACH	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Claims 1, 2 and 4-16 are pending. Claim 3 has been cancelled. Applicant's amendments in the response filed December 14, 2009 are acknowledged.
2. Applicant's arguments, filed December 14, 2009, with respect to the rejections of claims 1-14 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new grounds of rejection are made as discussed below.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1 and 4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, claim 1 recites the limitation "introducing a biocide into the washing cavity of the ware washer at a pH of between 2 and 12 in order to provide a gaseous atmosphere thereof in the washing cavity, the biocide being introduced into the washing cavity prior to or contemporaneously with or subsequent to the washing or rinsing of the ware, and wherein the biocide is introduced in gaseous phase into the washing cavity independently of the water." Claim 4 further claims

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“wherein the biocide is introduced at a pH of between 4 and 6 during a pre-rinse step carried out before the washing step of step (i)”. As defined by the specification and claim 6, the biocide is preferably ozone. However, it is well known that ozone is pH neutral. The specification does not describe how the pH of the ozone is altered. Moreover, the biocide is introduced independently of water and even before water has been introduced into the washing cavity, so the pH of the washing cavity would also be expected to be neutral. (A) The claims are broad in view of the description provided in the specification, which does not explain how the ozone is provided at a pH of 2-12 or more specifically, at a pH of 4-6. (B) The nature of the invention is a dishwasher where a biocide in the form of ozone is introduced to sterilize the washing cavity. (C) In terms of the state of the prior art, the prior art discloses dishwashing methods where biocides in the form of ozone are introduced into the washing cavity. However, the prior art does not specify the pH at which ozone is introduced. (D) In terms of the level of one of ordinary skill, it is known that ozone gas is pH neutral. One of ordinary skill would not be able to ascertain how the pH could be introduced at a pH of 2-12 or 4-6, especially if introduced independently of water as claimed. (E) Regarding the level of predictability in the art, one skilled in the art could not readily ascertain how the ozone reaches this pH. (F) The amount of direction provided by the inventor is minimal since the specification does not describe how this pH is attained. (G) There are no working examples which describe pH of the ozone. (H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure would be undue. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988)

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claims 1 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 1 recites the limitation “introducing a biocide into the washing cavity of the ware washer at a pH of between 2 and 12 in order to provide a gaseous atmosphere thereof in the washing cavity, the biocide being introduced into the washing cavity prior to or contemporaneously with or subsequent to the washing or rinsing of the ware, and wherein the biocide is introduced in gaseous phase into the washing cavity independently of the water.” Claim 4 further recites “wherein the biocide is introduced at a pH of between 4 and 6 during a pre-rinse step carried out before the washing step of step (i).” As defined by the specification and claim 6, the biocide is preferably ozone. It is well known that ozone in its gaseous form is pH neutral. Since the claims recite introducing the ozone before washing and independent of water, it is unclear how the ozone can be introduced at a pH of 2-12, or 4-6, rendering these claims indefinite.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 1, 2 and 4, 6-8, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-1444372 to Omachi (Machine Translation).

10. As to claims 1 and 6, Omachi discloses a ware washing process including the steps of: (i) washing food utensils (items which are used in the preparation and consumption of food and drink) in a washing cavity of a ware washer with water and detergent (Page 13, Paragraph

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[0047]) (ii) rinsing the ware in the ware washer with water (Page 14, Paragraph [0052]); and (iii) introducing a biocide in the form of ozone into the washing cavity subsequently to the washing and rinsing of the ware, independently of the water (Page 14, Paragraph [0052]). Omachi teaches that the ozone is flown into the washing cavity by an air style blower, and circulates in the cavity (Page 5, Paragraph [0011]; Page 14, Paragraph [0053]; Claims). Therefore, the ozone is introduced in the gaseous phase and provides a gaseous atmosphere. While Omachi does not expressly disclose that the biocide is introduced into the washing cavity of the ware washer at a pH of between 2 and 12, one of ordinary skill would recognize that ozone gas is pH-neutral, so it is expected to be introduced at a pH of around 7.

11. As to claim 2, Omachi further discloses that the ozone is introduced into the cavity at a normal temperature, which is understood to be room temperature which is about 25 degrees Celsius (Pages 7-8, Paragraph [0026]).

12. As to claim 4, Omachi discloses that the ozone (biocide) is introduced after rinsing, which follows washing (Page 14, Paragraph [0052]). While Omachi does not expressly disclose that the biocide is introduced during a pre-rinse step carried out before the washing step, the selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results. See *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946). While Omachi does not expressly disclose that the biocide is introduced into the washing cavity of the ware washer at a pH of between 4 and 6, one of ordinary skill would recognize that ozone gas is pH-neutral, so it is expected to be introduced at a pH of around 7.

13. As to claim 7, Omachi further discloses that the ozone is generated by means of an ozone generator (Ref. #21) which generates ozone by a blower (Ref. #10) in the style of air to supply

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ozone to the washing cavity (Ref. #2) of the dishwasher, so it inherently has an outlet in fluid flow communication with the washing cavity (Page 5, Paragraphs [0008], [0010], [0011]; Drawings 3-5).

14. As to claim 8, Omachi further discloses that the washing may be carried out at a low temperature of 60 degrees or less, which anticipates the claimed range (Page 14, Paragraphs [0051], [0052]).

15. As to claims 13 and 14, Omachi discloses the use of a biocide in form of ozone in a washing process for washing food utensils (ware used in the preparation and consumption of food and drink), the ozone being introducing into the washing cavity in a gaseous phase independently of water so as to provide a gaseous atmosphere thereof in the washing cavity (Page 14, Paragraphs [0052], [0053]).

16. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-144372 to Omachi (Machine Translation) as applied to claim 1 above, and further in view of USPN 5,899,215 to Parker, III et al.

17. Omachi is relied upon as discussed above with respect to the rejection of claim 1.

18. As to claim 5, it is understood that the water used in the dishwashing process is exposed to the ozone (biocide) since they are present in the same system. Omachi does not expressly disclose that the water used in the ware washing process and exposed to the biocide is recycled. Parker discloses recycling rinse and/or wash liquid used in a dishwashing process (Col. 1, lines 8-12). It would have been obvious to one of ordinary skill in the art at the time of the invention

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to modify the method taught by Omachi to include recycling the water used in the washing process as taught by Parker to reduce water consumption (Col. 1, lines 8-12).

19. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-144372 to Omachi as applied to claim 1 above, and further in view of USPN 6,176,244 to Schouten.

20. Omachi is relied upon as discussed above with respect to the rejection of claim 1.

21. As to claim 9, Omachi does not expressly disclose that the ware washing detergent includes an inorganic alkali, a complexing agent, and at least one surfactant. Schouten discloses a detergent comprising NaOH or KOH (an inorganic alkali), a water conditioning agent like NTA or EDTA, which is a complexing agent as defined by applicant, and at least one surfactant (Col. 7, lines 32-44). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method taught by Omachi to include a detergent as taught by Schouten for the benefit of using a detergent composition known to be effective in a dishwashing process (Col. 1, lines 8-12).

22. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-144372 to Omachi and USPN 6,176,244 to Schouten as applied to claim 9 above, and further in view of USPN 3,600,317 to Lintner, USPA 2002/0037821 to Renfrow and USPN 5,399,285 to Kanlun, and as evidenced by USPN 5,874,392 to Halvorson et al.

23. Omachi and Schouten are relied upon as discussed above with respect to the rejection of claim 9.

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24. As to claim 10, Schouten further discloses that the detergent comprises EDTA or NTA, NaOH (caustic soda lye) at about 20-30 wt%, at least 1 wt% surfactants, and the remainder water (Col. 7, lines 4-12, 32-44). As evidenced by Halvorson, sodium hydroxide can soften water (Col. 4, lines 31-32), so it is understood that the water in the detergent is softened. While Schouten discloses using EDTA or NTA, it would have been obvious to one of ordinary skill to use a combination of the two since they are equivalent water conditioning agents (Col. 7, lines 32-44). The combination of Schouten and Omachi does not expressly disclose that the surfactant is alkyl polyglucoside and alkylamino polyethoxy polypropoxy propanol, or that the detergent comprises an anti-scaling agent.

25. Lintner discloses using an amine polyglycol condensate such as Triton CF-32, which is defined by applicant to be alkylamino polyethoxy polypropoxy propanol, as a surfactant to reduce dishwasher detergent caking (Col. 1, lines 26-31; Col. 2, lines 14-19). Renfrow discloses using Triton BG-10, which is defined by applicant to be alkyl polyglucoside, as a surfactant in a detergent (Page 1, Paragraph [0015]). Kanluen discloses using 1, 2-phosphonobutane-1, 2, 4-tricarboxylic acid as a chelating agent in a detergent (Col. 3, lines 32-44). Applicant defines this to be an anti-scaling agent.

26. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method taught by Schouten and Omachi to include Triton CF-32 and Triton BG-10 in the detergent composition as taught by Lintner and Renfrow since they are known to be used as effective surfactants. The selection of a known material based on its suitability for its intended use supports a prima facie obviousness. (MPEP 2144.07). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the method taught by

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Schouten, Omachi, Lintner and Renfrow to include 1,2-phosphonobutane-1,2,4-tricarboxylic acid in the detergent as taught by Kanlun. One of ordinary skill would have been motivated to add this compound since it is a known chelating agent, which will improve the cleaning power of the detergent (Col. 3, lines 32-44). While the combination of Omachi, Schouten, Lintner, Renfrow and Kanlun does not expressly disclose the % composition as claimed, differences in concentration generally will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical. Therefore, it would have been obvious to one of ordinary skill to optimize concentration through routine experimentation to improve cleaning. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); MPEP 2144.05 II.

27. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-144372 to Omachi as applied to claim 1 above, and further in view of USPN 3,775,330 to Batka et al. and USPN 3,623,988 to Weimer.

28. Omachi is relied upon as discussed above with respect to the rejection of claim 1.

29. As to claim 11, Omachi does not expressly disclose that a rinse aid composition is used during rinsing, comprising at least one alkoxyated alcohol and an acid. Batka discloses using a rinse-aid composition during rinsing (Col. 1, lines 30-37). The rinse aid composition comprises an acid (Col. 4, lines 15-24). Batka teaches that the rinse aid comprises a non-ionic, low foaming tenside (surfactant), but does not expressly disclose an alkoxyated alcohol (Col. 2, lines 45-49). Weimer discloses using an epichlorohydrin capped alcohol ethoxylate (alkoxyated alcohol) as a

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low foaming, non-ionic, caustic, stable surfactant as a rinse aid in automatic dishwashers (Col. 1, lines 13-20; Col. 2, lines 22-36).

30. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method taught by Omachi to include a rinse aid composition as taught by Batka for the benefit of reducing the surface tension of the after-rinsing water so that it drains in a film-like manner from the dishes and leaves no visible deposits, such as lime spots or other impurities (Col. 1, lines 30-37). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method taught by Omachi and Batka to include an alkoxyated alcohol in the rinse aid composition as taught by Weimer. One of ordinary skill would have been motivated to substitute an alkoxyated alcohol in place of the surfactant taught by Batka with a reasonable expectation of success since it is also a nonionic, low foaming surfactant.

31. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-144372 to Omachi in view of USPN 3,775,330 to Batka et al. and USPN 3,623,988 to Weimer as applied to claim 11 above, and further in view of USPN 5,958,855 to Binstock et al.

32. Omachi and Batka are relied upon as discussed above with respect to the rejection of claim 11.

33. As to claim 12, Batka further discloses that the rinse aid composition comprises 10-40% by weight of a water-miscible alcohol such as propanol or isopropanol (propyl alcohol), 0-40% by weight of a lower organic carboxylic acid such as citric acid, and 20-90% by weight of water (Col. 3, lines 65-71; Col. 4, lines 14-24, 35-47). Batka teaches that the citric acid is added if the rinsing is performed with hard water, implying that it is softened by the acid (Col. 4, lines 14-

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16). Weimer discloses using an epichlorohydrin capped alcohol ethoxylate (alkoxylated alcohol) as a low foaming, non-ionic, caustic, stable surfactant as a rinse aid in automatic dishwashers (Col. 1, lines 13-20; Col. 2, lines 22-36). The combination of Omachi, Batka and Weimer does not expressly disclose that the rinse aid composition comprises a second alkoxylated alcohol composition. Binstock teaches that Synperonic nonionic surfactants are often used in dishwasher detergents (Col. 3, lines 67-Col. 4, line 3). As defined by the specification, Synperonic is a mixture of alkoxylated alcohols. Binstock teaches that alkoxylated alcohol compositions are used as low-foaming surfactants (Col. 3, lines 4-12). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a second mixture of alkoxylated alcohols as taught by Binstock for the benefit of optimizing the rinse aid composition to enhance rinsing. While the combination of Omachi, Batka, Weimer and Binstock does not expressly disclose the % composition as claimed, differences in concentration generally will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical. Therefore, it would have been obvious to one of ordinary skill to optimize concentration through routine experimentation to improve cleaning. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); MPEP 2144.05 II.

34. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-144372 to Omachi in view of USPN 4,076,146 to Lausberg et al.

35. As to claim 15, Omachi discloses a ware washer connectable to a source of water (Page 11, Paragraph [0038]), including a washing cavity (Ref. #2), wherein food utensils (items used in the preparation and consumption of food and drink) may be loaded therein (Page 5, Paragraph

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[0008]). Omachi teaches that the dishwasher injects water into the washing cavity through a water supply opening, i.e. inlet (Page 5, Paragraph [0008]; Page 11, Paragraph [0038]). The ware washer further includes a biocide introduction means in the form of an ozone generator (Page 5, Paragraph [0008]). The ozone generator (Ref. #21) generates ozone by a blower (Ref. #10) in the style of air to supply ozone to the washing cavity (Ref. #2) of the dishwasher, so it inherently has an outlet in fluid flow communication with the washing cavity (Page 5, Paragraphs [0008], [0010], [0011]; Drawings 3-5). Since the ozone is supplied like air, it is introduced in a gaseous phase to provide a gaseous atmosphere in the washing cavity. Omachi teaches that the ozone is introduced independently of water (Page 14, Paragraph [0052]; Page 18, Paragraph [0072]).

36. Omachi discloses that detergent is added to the washing cavity (Page 13, Paragraph [0047], but does not expressly disclose that it is supplied through an inlet. Lausberg discloses a dishwasher having a detergent dispenser with an inlet and outlet to supply detergent to the reservoir (washing cavity) (Col. 1, lines 31-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method taught by Omachi to include an inlet for introducing detergent into the washing cavity as taught by Lausberg in order to simplify and regulate the supply of detergent to the washing cavity during a washing process.

Response to Arguments

38. Applicant's arguments filed December 14, 2009 with respect to the rejections of claims 15 and 16 have been fully considered but they are not persuasive. Applicant argues that the Lausberg reference fails to cure the deficiencies of the primary reference since Lausberg does not disclose a ware washer comprising an ozone generator and the office action has not provided any

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evidence that the detergent inlet disclosed by Lausberg is suitable to use in a ware washer that comprises an ozone generator as in Omachi. The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason why the claimed invention would have been obvious. *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007).

Examiner maintains that detergent inlets are well known for use in dishwashers to supply detergent to the washing cavity. Therefore, one of ordinary skill in the art would have found it obvious to add an inlet to the dishwasher taught by Omachi with a reasonable expectation of successfully simplifying and regulating the supply of detergent to the washing cavity during a washing process. The prior art can be modified or combined to reject claims as prima facie obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

39. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAOMI BIRBACH whose telephone number is (571)270-7367.

The examiner can normally be reached on Monday-Friday, 8:00am-5:30pm.

40. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on 571-272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

41. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. B./

Naomi Birbach

Examiner, Art Unit 1792

/Michael Kornakov/

Supervisory Patent Examiner, Art Unit 1792